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| APPLICATION NO.                                                                                      | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/500,183                                                                                           | 06/25/2004  | Jean-Michel Simmonet | S1022.80949US00     | 5321             |
| 23628                                                                                                | 7590        | 11/04/2005           | EXAMINER            |                  |
| WOLF GREENFIELD & SACKS, PC<br>FEDERAL RESERVE PLAZA<br>600 ATLANTIC AVENUE<br>BOSTON, MA 02210-2211 |             |                      | ERDEM, FAZLI        |                  |
|                                                                                                      |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                                                                      |             |                      | 2826                |                  |

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                       |  |
|------------------------------|------------------------|-----------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>   |  |
|                              | 10/500,183             | SIMMONET, JEAN-MICHEL |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>       |  |
|                              | Fazli Erdem            | 2826                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Pezzani (5,608,235) in view of Pezzani (6,034,381).

Regarding Claims 1-8, Pezzani '235 discloses a voltage controlled bidirectional switch where in Claim 20 and 4A, it is disclosed a voltage controlled monolithic bidirectional switch with a first and second main terminals with a substrate having an upper and lower surfaces, a lateral PMOS including source and drain, a vertical NMOS including a source well, the source well of the vertical transistor disposed in the substrate including the source and drain and the first region formed in the drain, a first vertical thyristor in the substrate with a first polarity including the polarity of the lateral transistor and second, third and fourth regions, the second thyristor in the substrate with a second polarity opposite to the first thyristor, the second thyristor disposed in parallel with the first vertical thyristor, the second and third regions of the first vertical thyristor and a fifth region corresponding to the source well of the vertical NMOS, the fifth region defining a first end of the second vertical thyristor and third region defining a second end of the second vertical transistor, first main terminal/electrode coupled to the first end of the first vertical thyristor and first end of the second thyristor and second main terminal/electrode

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coupled to the second end of the first and second vertical thyristor. Pezzani '235 fails to disclose the required extension structure. However, Pezzani '381 discloses a network of triacs with gates referenced with respect to a common opposite face electrode where in Fig. 1A, an extension region 4 that is used for an electrode for the second Thyristor Th2 is disclosed.

Regarding Claim 2 and 6, in Fig. 1A of Pezzani, region 7 surrounds the component.

Regarding Claims 3, 4, 7 and 8, in Fig. 1A of Pezzani, regions 10 and 4 surround regions 11 and 3.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required metallization/electrode extension in Pezzani '235 as taught by Pezzani '381, in order to have a voltage controlled bidirectional switch with increased performance.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FE

October 27, 2005

  
**NATHAN J. FLYNN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**